

CLAIMS

We claim:

1. A projection system for projecting a three-dimensional object within a defined volume, the projection system comprising:
 - a holding tank for storing a reservoir containing a projection medium;
 - a projector including a plurality of valves for projecting the projection medium from the holding tank;
 - an illumination device for illuminating the projected medium for a fixed time period; and
 - a receiving mechanism for receiving the projection medium after illumination.
2. The projection system of claim 1, wherein the projection medium comprises a liquid.
3. The projection system of claim 1, further comprising an image data computation module for computing image data.
4. The projection system of claim 3, further comprising a projection communication and control module for communicating the computed image data to the projection unit in order to control the valves.
5. The system of claim 1, further comprising an illumination device control unit for controlling operation of the illumination device.
6. The system of claim 1, wherein the receiving mechanism includes a reclamation tray for reclaiming the projection medium for further use.
7. The system of claim 1, wherein the receiving mechanism includes a drain for disposing of the projection medium.

8. The system of claim 1, wherein the illumination device comprises a strobe light is mounted to a face of the projector.

9. A method for projecting a three dimensional object within a defined volume, the method comprising:

forcing a projection medium from a plurality of valves contained within a projector; and
illuminating the forced projection medium with an illumination device.

10. The method of claim 9, further comprising reclaiming the projection medium for reuse after illumination.

11. The method of claim 9, further comprising disposing of the projection medium after illumination.

12. The method of claim 9, further comprising filling a holding tank with the projection medium.

13. The method of claim 9, further comprising computing image data and transmitting the image to the projector to control the valves.

14. The method of claim 13, further comprising opening selected valves based on the image data such that a quantity of projection medium falls from the projector.

15. The method of claim 14, further comprising controlling the illumination device to illuminate the projected medium for a fixed time period.

16. A projection system for projecting a three-dimensional object within a defined volume, the projection system including:

imaging data computation apparatus for computing imaging data;

communication tools for communicating the imaging data to a projector that disperses a projection medium based on the communicated imaging data; and

an illumination control unit that controls an illumination device for illuminated the dispersed medium.

17. The projection system of claim 16, wherein the communication tools control a plurality of valves within the projector to disperse the projection medium.

18. The projection system of claim 16, wherein the imaging data computation apparatus computes multiple discrete layers of imaging data.

19. The projection system of claim 16, further comprising a reclamation system for reclaiming projection medium after illumination.

20. The projection system of claim 16, further comprising a disposal for disposing of the projection medium after illumination.

21. The projection system of claim 16, further comprising a holding tank for storing a reservoir containing a projection medium.

22. The projection system of claim 16, further comprising a projector including a plurality of valves for projecting the projection medium.

23. The projection system of claim 16, wherein the illumination device comprises a strobe light.

24. The projection system of claim 16, wherein the projection medium comprises a liquid.

25. The projection system of claim 23, wherein the strobe light is mounted to a face of the projector.

26. A method for projecting a three-dimensional object within a defined volume, the method comprising:

storing imaging data for an image as a plurality of layers of imaging data;

communicating a layer of imaging data to a projector that projects a projection medium based upon the communicated imaging data; and

controlling an illumination source to illuminate the projection medium.

27. The method of claim 26, further comprising computing image data and transmitting the image to the projector to control the valves.

28. The method of claim 27, further comprising opening selected valves based on the image data such that a quantity of projection medium falls from the projector.

29. The method of claim 26, further comprising controlling a strobe light for illumination of the projection medium.

30. The method of claim 26, further comprising reclaiming the projection medium for reuse after illumination.

31. The method of claim 26, further comprising disposing of the projection medium after illumination.

32. The method of claim 26, further comprising filling a holding tank with the projection medium.

33. A computer-readable medium having computer-executable instructions for performing the method recited in claim 26.